

(g) The modeled annual methane generation rate for the reporting year (metric tons  $\text{CH}_4$ ) calculated using Equation HH-1 of this subpart.

(h) For landfills without gas collection systems, the annual methane emissions (i.e., the methane generation, adjusted for oxidation, calculated using Equation HH-5 of this subpart), reported in metric tons  $\text{CH}_4$ , and an indication of whether passive vents and/or passive flares (vents or flares that are not considered part of the gas collection system as defined in § 98.6) are present at this landfill.

(i) For landfills with gas collection systems, you must report:

(1) Total volumetric flow of landfill gas collected for destruction for the reporting year (cubic feet at 520 °R or 60 degrees Fahrenheit and 1 atm).

(2) Annual average  $\text{CH}_4$  concentration of landfill gas collected for destruction (percent by volume).

(3) Monthly average temperature and pressure for each month at which flow is measured for landfill gas collected for destruction, or statement that temperature and/or pressure is incorporated into internal calculations run by the monitoring equipment.

(4) An indication as to whether flow was measured on a wet or dry basis, an indication as to whether  $\text{CH}_4$  concentration was measured on a wet or dry basis, and if required for Equation HH-4 of this subpart, monthly average moisture content for each month at which flow is measured for landfill gas collected for destruction.

(5) An indication of whether destruction occurs at the landfill facility or off-site. If destruction occurs at the landfill facility, also report an indication of whether a back-up destruction device is present at the landfill, the annual operating hours for the primary destruction device, the annual operating hours for the back-up destruction device (if present), and the destruction efficiency used (percent).

(6) Annual quantity of recovered  $\text{CH}_4$  (metric tons  $\text{CH}_4$ ) calculated using Equation HH-4 of this subpart.

(7) A description of the gas collection system (manufacturer, capacity, and number of wells), the surface area (square meters) and estimated waste depth (meters) for each area specified

in Table HH-3 to this subpart, the estimated gas collection system efficiency for landfills with this gas collection system, the annual operating hours of the gas collection system, and an indication of whether passive vents and/or passive flares (vents or flares that are not considered part of the gas collection system as defined in § 98.6) are present at the landfill.

(8) Methane generation corrected for oxidation calculated using Equation HH-5 of this subpart, reported in metric tons  $\text{CH}_4$ .

(9) Methane generation ( $G_{\text{CH}_4}$ ) value used as an input to Equation HH-6 of this subpart. Specify whether the value is modeled ( $G_{\text{CH}_4}$  from HH-1 of this subpart) or measured ( $R$  from Equation HH-4 of this subpart).

(10) Methane generation corrected for oxidation calculated using Equation HH-7 of this subpart, reported in metric tons  $\text{CH}_4$ .

(11) Methane emissions calculated using Equation HH-6 of this subpart, reported in metric tons  $\text{CH}_4$ .

(12) Methane emissions calculated using Equation HH-8 of this subpart, reported in metric tons  $\text{CH}_4$ .

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66472, Oct. 28, 2010]

#### § 98.347 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration. You must retain records of all measurements made to determine tare weights and working capacities by vehicle/container type if these are used to determine the annual waste quantities.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66473, Oct. 28, 2010]

#### § 98.348 Definitions.

Except as specified in this section, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

*Construction and demolition (C&D) waste landfill* means a solid waste disposal facility subject to the requirements of part 257, subparts A or B of

## Environmental Protection Agency

## Pt. 98, Subpt. HH, Table HH-1

this chapter that receives construction and demolition waste and does not receive hazardous waste (defined in §261.3 of this chapter) or industrial solid waste (defined in §258.2 of this chapter) or municipal solid waste (as defined in §98.6) other than residential lead-based paint waste. A C&D waste landfill typically receives any one or more of the following types of solid wastes: Roadwork material, excavated material, demolition waste, construction/renovation waste, and site clearance waste.

*Destruction device* means a flare, thermal oxidizer, boiler, turbine, internal combustion engine, or any other combustion unit used to destroy or oxidize methane contained in landfill gas.

*Industrial waste landfill* means any landfill other than a municipal solid waste landfill, a RCRA Subtitle C hazardous waste landfill, or a TSCA hazardous waste landfill, in which indus-

trial solid waste, such a RCRA Subtitle D wastes (nonhazardous industrial solid waste, defined in §257.2 of this chapter), commercial solid wastes, or conditionally exempt small quantity generator wastes, is placed. An industrial waste landfill includes all disposal areas at the facility.

*Solid waste* has the meaning established by the Administrator pursuant to the Solid Waste Disposal Act (42 U.S.C.A. 6901 *et seq.*).

*Working capacity* means the maximum volume or mass of waste that is actually placed in the landfill from an individual or representative type of container (such as a tank, truck, or roll-off bin) used to convey wastes to the landfill, taking into account that the container may not be able to be 100 percent filled and/or 100 percent emptied for each load.

[75 FR 66473, Oct. 28, 2010]

TABLE HH-1 TO SUBPART HH OF PART 98—EMISSIONS FACTORS, OXIDATION FACTORS AND METHODS

Factor	Default value	Units
<b>DOC and k values—Bulk waste option</b>		
DOC (bulk waste) .....	0.20 .....	Weight fraction, wet basis.
k (precipitation plus recirculated leachate <sup>a</sup> <20 inches/year) .....	0.02 .....	yr <sup>-1</sup>
k (precipitation plus recirculated leachate <sup>a</sup> 20–40 inches/year) .....	0.038 .....	yr <sup>-1</sup>
k (precipitation plus recirculated leachate <sup>a</sup> >40 inches/year) .....	0.057 .....	yr <sup>-1</sup>
<b>DOC and k values—Modified bulk MSW option</b>		
DOC (bulk MSW, excluding inerts and C&D waste) .....	0.31 .....	Weight fraction, wet basis.
DOC (inerts, e.g., glass, plastics, metal, concrete) .....	0.00 .....	Weight fraction, wet basis.
DOC (C&D waste) .....	0.08 .....	Weight fraction, wet basis.
k (bulk MSW, excluding inerts and C&D waste) .....	0.02 to 0.057 <sup>b</sup> .....	yr <sup>-1</sup>
k (inerts, e.g., glass, plastics, metal, concrete) .....	0.00 .....	yr <sup>-1</sup>
k (C&D waste) .....	0.02 to 0.04 <sup>b</sup> .....	yr <sup>-1</sup>
<b>DOC and k values—Waste composition option</b>		
DOC (food waste) .....	0.15 .....	Weight fraction, wet basis.
DOC (garden) .....	0.2 .....	Weight fraction, wet basis.
DOC (paper) .....	0.4 .....	Weight fraction, wet basis.
DOC (wood and straw) .....	0.43 .....	Weight fraction, wet basis.
DOC (textiles) .....	0.24 .....	Weight fraction, wet basis.
DOC (diapers) .....	0.24 .....	Weight fraction, wet basis.
DOC (sewage sludge) .....	0.05 .....	Weight fraction, wet basis.
DOC (inerts, e.g., glass, plastics, metal, cement) .....	0.00 .....	Weight fraction, wet basis.
k (food waste) .....	0.06 to 0.185 <sup>c</sup> .....	yr <sup>-1</sup>
k (garden) .....	0.05 to 0.10 <sup>c</sup> .....	yr <sup>-1</sup>
k (paper) .....	0.04 to 0.06 <sup>c</sup> .....	yr <sup>-1</sup>
k (wood and straw) .....	0.02 to 0.03 <sup>c</sup> .....	yr <sup>-1</sup>
k (textiles) .....	0.04 to 0.06 <sup>c</sup> .....	yr <sup>-1</sup>
k (diapers) .....	0.05 to 0.10 <sup>c</sup> .....	yr <sup>-1</sup>
k (sewage sludge) .....	0.06 to 0.185 <sup>c</sup> .....	yr <sup>-1</sup>
k (inerts e.g., glass, plastics, metal, concrete) .....	0.00 .....	yr <sup>-1</sup>
<b>Other parameters—All MSW landfills</b>		
MCF .....	1.	
DOC <sub>F</sub> .....	0.5.	